What is claimed is:

1. A method of producing reduced-quality MPEG coded video from original-quality MPEG coded video, the original-quality MPEG coded video including a set of non-zero AC discrete cosine transform (DCT) coefficients for 8x8 blocks in frames of the original-quality MPEG coded video, the reduced-quality MPEG coded video also having frames of 8x8 blocks, each frame in the reduced-quality MPEG coded video having a corresponding frame in the original-quality MPEG coded video, and each 8x8 block in each frame of the reduced-quality MPEG coded video having a corresponding block in a corresponding frame in the original-quality MPEG coded video, said method comprising the steps of:

selecting non-zero AC DCT coefficients from corresponding blocks in the original-quality MPEG coded video to be included in the blocks of the reduced-quality MPEG coded video so that each 8x8 block in each frame of the reduced-quality MPEG coded video has a number of bits encoding non-zero AC DCT coefficients that is generally proportional to the number of bits encoding non-zero AC DCT coefficients for the corresponding 8x8 block in the corresponding frame of original-quality MPEG coded video.

2. The method as claimed in claim 1, which includes computing a number of bits available for encoding the non-zero AC DCT coefficients in said each of the 8x8 blocks in each frame of the reduced-quality MPEG coded video, the number of bits available for encoding being computed by scaling the number of bits encoding non-zero AC DCT coefficients in the corresponding block of the corresponding frame of the

original-quality MPEG coded video by a scale factor for said each frame, the scale factor being selected to obtain a desired reduced bit rate in the MPEG coded video for said each frame.

3. The method as claimed in claim 2, which includes computing a moving average of frame size of the frames in the original-quality MPEG coded video, and computing the scale factor for said each frame from the moving average of frame size and a desired frame size for the reduced-quality MPEG coded video.

4. The method as claimed in claim 2, which includes computing a difference between the number of bits available for encoding the non-zero AC DCT coefficients in said each of the 8x8 blocks in each frame of the reduced-quality MPEG coded video and the number of bits used for encoding the non-zero AC DCT coefficients retained in said each of the 8x8 blocks in each frame of the reduce-quality MPEG coded video, and making available for encoding non-zero AC DCT coefficients of following blocks said difference between the number of bits.

5. The method as claimed in claim 4, which includes accumulating said difference to produce an accumulated number of bits that were available for encoding non-zero AC DCT coefficients in prior 8x8 blocks of the reduced-quality MPEG coded video but were not used for encoding non-zero AC DCT coefficients in the prior 8x8 blocks of the reduced-quality MPEG coded video, and making said accumulated number of bits available for encoding non-zero AC DCT coefficients in a certain number of

following blocks in the reduced-quality MPEG coded video by dividing said accumulated number of bits by said certain number of following blocks to compute a fraction of the accumulated number of bits that is available for encoding said each of the 8x8 blocks of said each frame of the reduced-quality MPEG coded video in addition to the number of bits computed by scaling the number of bits encoding non-zero AC DCT coefficients in the corresponding block of the corresponding frame of the original-quality MPEG coded video by the scale factor for said each frame.

6. The method as claimed in claim 5, wherein said certain number of blocks is substantially equal to the number of blocks in said each frame, so that bits that are available but not used for encoding the AC DCT coefficients for the blocks in said each frame are made available for encoding the AC DCT coefficients for the blocks in a following frame.

7. The method as claimed in claim 1, which includes computing a difference between a number of bits available for encoding the non-zero AC DCT coefficients in said each of the 8x8 blocks in each frame of the reduced-quality MPEG coded video and the number of bits used for encoding the non-zero AC DCT coefficients retained in said each of the 8x8 blocks in each frame of the reduce-quality MPEG coded video, and making said difference available for encoding non-zero AC DCT coefficients of following blocks.

8. The method as claimed in claim 7, which includes accumulating said difference to produce an accumulated number of bits that were available for encoding non-zero AC DCT coefficients in prior 8x8 blocks of the reduced-quality MPEG coded video but were not used for encoding non-zero AC DCT coefficients in the prior 8x8 blocks of the reduced-quality MPEG coded video, and making said accumulated number of bits available for encoding non-zero AC DCT coefficients in a certain number of following blocks.

9. The method as claimed in claim 8, wherein said accumulated number of bits is made available for encoding non-zero AC DCT coefficients in a certain number of following blocks of the reduced-quality MPEG coded video by dividing said accumulated number of bits by said certain number of following blocks of the reduced-quality MPEG coded video to compute a fraction of the accumulated number of bits that is available for encoding non-zero AC DCT coefficients in said each of the 8x8 blocks of the reduced-quality MPEG coded video in addition to the number of bits computed by scaling the number of bits encoding non-zero AC DCT coefficients in the corresponding block of the corresponding frame of the original-quality MPEG coded video by the scale factor for said each frame.

10. The method as claimed in claim 8, wherein said certain number of following blocks is substantially equal to the number of blocks in a frame, so that bits that are available but not used for encoding the AC DCT coefficients for the blocks in

said each frame are made available for encoding the AC DCT coefficients for the blocks in a following frame.

11. A method of producing reduced-quality MPEG coded video from original-quality MPEG coded video, the original-quality MPEG coded video including a set of non-zero AC discrete cosine transform (DCT) coefficients for 8x8 blocks in frames of the original-quality MPEG coded video, the reduced-quality MPEG coded video also having frames of 8x8 blocks, each frame in the reduced-quality MPEG coded video having a corresponding frame in the original-quality MPEG coded video, and each 8x8 block in each frame of the reduced-quality MPEG coded video having a corresponding block in a corresponding frame in the original-quality MPEG coded video, said method comprising, for each block in the reduced-quality MPEG coded video, the steps of:

(a) determining the number of bits used in encoding non-zero AC DCT coefficients in the corresponding block of original-quality MPEG coded video;

(b) computing a number of bits available for encoding AC DCT coefficients in the original-quality MPEG coded video by scaling the number of bits used in encoding non-zero AC DCT coefficients in the corresponding block of original-quality MPEG coded video with a scale factor; and

(c) selecting non-zero AC DCT coefficients in a certain order from the corresponding block in the original-quality MPEG coded video to be included in said each block of the reduced-quality MPEG coded video until the number of bits available for encoding the AC DCT coefficients in the block in the reduced-quality encoded video is not sufficient for encoding, in the block of the reduced-quality MPEG coded video, any

more of the AC DCT coefficients in the corresponding block of original-quality MPEG coded video.

12. The method as claimed in claim 11, wherein said order is a parsing order of the non-zero AC DCT coefficients in the corresponding block in the original-quality MPEG coded video.

13. The method as claimed in claim 11, which includes computing the scale factor from a bit rate of the original-quality MPEG coded video and a desired bit rate for the reduced-quality MPEG coded video.

14. The method as claimed in claim 11, which includes computing the scale factor for each frame of the reduced-quality MPEG coded video from a moving average of the size of the corresponding frames in the original-quality MPEG coded video and a desired frame size for the reduced-quality MPEG coded video.

15. The method as claimed in claim 11, which includes computing a difference between the number of bits available for encoding the non-zero AC DCT coefficients in said each of the 8x8 blocks in each frame of the reduced-quality MPEG coded video and the number of bits used for encoding the non-zero AC DCT coefficients retained in said each of the 8x8 blocks in each frame of the reduce-quality MPEG coded video, and making available for encoding non-zero AC DCT coefficients of following blocks said difference between the number of bits.

16. The method as claimed in claim 15, which includes accumulating said difference to produce an accumulated number of bits that were available for encoding non-zero AC DCT coefficients in prior 8x8 blocks of the reduced-quality MPEG coded video but were not used for encoding non-zero AC DCT coefficients in the prior 8x8 blocks of the reduced-quality MPEG coded video, and making said accumulated number of bits available for encoding non-zero AC DCT coefficients in a certain number of following blocks in the reduced-quality MPEG coded video by dividing said accumulated number of bits by said certain number of following blocks to compute a fraction of the accumulated number of bits that is available for encoding said each of the 8x8 blocks of said each frame of the reduced-quality MPEG coded video in addition to the number of bits computed by scaling the number of bits encoding non-zero AC DCT coefficients in the corresponding block of the corresponding frame of the original-quality MPEG coded video by the scale factor for said each frame.

17. The method as claimed in claim 16, wherein said certain number of following blocks is substantially equal to the number of blocks in said each frame, so that bits that are available but not used for encoding the AC DCT coefficients for the blocks in said each frame are made available for encoding the AC DCT coefficients for the blocks in a following frame.

18. A method of producing in real-time a stream of reduced-quality MPEG-2 coded video from a source of original-quality MPEG-2 coded video, the original-quality

MPEG-2 coded video including a set of non-zero AC discrete cosine transform (DCT) coefficients for 8x8 blocks in frames of the original-quality MPEG-2 coded video, the reduced-quality MPEG-2 coded video also having frames of 8x8 blocks, each frame in the reduced-quality MPEG-2 coded video having a corresponding frame in the original-quality MPEG-2 coded video, and each 8x8 block in each frame of the reduced-quality MPEG-2 coded video having a corresponding block in a corresponding frame in the original-quality MPEG-2 coded video, said method comprising, for each frame in the reduced-quality MPEG-2 coded video, the steps of:

(a) computing a moving average of the size of the corresponding frame in the original-quality MPEG-2 coded video;

(b) computing a scale factor from the moving average of the size of the corresponding frame in the original-quality MPEG-2 coded video and a desired size of said each frame of the reduced-quality MPEG-2 coded video; and

(c) for each 8x8 block in said each frame:

(i) determining the number of bits used in encoding non-zero AC DCT coefficients in the corresponding block of original-quality MPEG-2 coded video;

(ii) computing a number of bits available for encoding AC DCT coefficients in the original-quality MPEG-2 coded video by scaling the number of bits used in encoding non-zero AC DCT coefficients in the corresponding block of original-quality MPEG-2 coded video with a scale factor, and

(iii) selecting non-zero AC DCT coefficients in a parsing order from the corresponding block in the original-quality MPEG-2 coded video to be included in said each block of the reduced-quality MPEG-2 coded video until the number

of bits available for encoding the AC DCT coefficients in the block in the reduced-quality encoded video is not sufficient for encoding, in the block of the reduced-quality MPEG-2 coded video, any more of the AC DCT coefficients in the corresponding block of original-quality MPEG-2 coded video.

19. The method as claimed in claim 18, which includes computing a difference between the number of bits available for encoding the non-zero AC DCT coefficients in said each of the 8x8 blocks in each frame of the reduced-quality MPEG coded video and the number of bits used for encoding the non-zero AC DCT coefficients retained in said each of the 8x8 blocks in each frame of the reduce-quality MPEG coded video, and making available for encoding non-zero AC DCT coefficients of following blocks said difference between the number of bits.

20. The method as claimed in claim 19, which includes accumulating said difference to produce an accumulated number of bits that were available for encoding non-zero AC DCT coefficients in prior 8x8 blocks of the reduced-quality MPEG coded video but were not used for encoding non-zero AC DCT coefficients in the prior 8x8 blocks of the reduced-quality MPEG coded video, and making said accumulated number of bits available for encoding non-zero AC DCT coefficients in a certain number of following blocks in the reduced-quality MPEG coded video by dividing said accumulated number of bits by said certain number of following blocks to compute a fraction of the accumulated number of bits that is available for encoding said each of the 8x8 blocks of said each frame of the reduced-quality MPEG coded video in addition to the number of

bits computed by scaling the number of bits encoding non-zero AC DCT coefficients in the corresponding block of the corresponding frame of the original-quality MPEG coded video by the scale factor for said each frame.

21. The method as claimed in claim 20, wherein said certain number of blocks is substantially equal to the number of blocks in said each frame, so that bits that are available but not used for encoding the AC DCT coefficients for the blocks in said each frame are made available for encoding the AC DCT coefficients for the blocks in a following frame.